

Appl. No. 09/992,957

AMENDMENTS TO THE CLAIMS

In the claims, please amend claims 1 and 25 as follows:

1. (currently amended) A genetic immunization method to induce an immune response specific to an antigen in a mammals comprising:
 - a) providing a nucleic acid sequence encoding a peptide containing at least one antigenic determinant of said antigen, operatively linked to one or more control sequences such that said nucleic acid sequence is capable of being expressed in a cell in said mammals;
 - b) optionally formulating said nucleic acid sequence into a particle by complexation with one or more polymers;
 - c) injecting said nucleic acid sequence into a vessel connected to a tissue in said mammals; ~~and;~~
 - d) elevating intravascular pressure and increasing vascular permeability, thereby delivering said nucleic acid sequence to an extravascular cell in said tissue, expressing said nucleic acid sequence in said; and,
 - e) generating ~~in the mammal~~ the immune response in a majority of mammals injected for the purpose of utilizing the immune response, such use is selected from the list consisting of: immunizing the mammals, vaccinating the mammals; inducing a cellular immune response, inducing a humoral immune response, producing antibodies specific to said antigen, and producing immune cells that produce antibodies to the antigen.
2. (previously presented) The method of claim 1, wherein said extravascular cell is a lymphoid cell.
3. (previously presented) The method of claim 2, wherein said extravascular cell is a gut-associated lymphoid cell.
4. (previously presented) The method of claim 2, wherein said extravascular cell is a nasal lymphoid cell.
5. (previously presented) The method of claim 1, wherein said extravascular cell consists of a liver cell.

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6. (previously presented) The method of claim 1, wherein said extravascular cell consists of a muscle cell.
7. (original) The method of claim 1, wherein said nucleic acid is further protected by a coating.
8. (canceled)
9. (previously presented) The method of claim 1 wherein said vessel consists of a tail vein.
10. (original) The method of claim 1, wherein said sequence is a DNA sequence.
11. (original) The method of claim 10, wherein said DNA sequence is a plasmid.
12. (currently amended) The method of claim 1, wherein said mammals consists of a rodents.
- 13-24. (canceled).
25. (currently amended) A method of generating antibodies specific to an antigen comprising:
 - a) providing a non-viral nucleic acid encoding at least one antigenic determinant of said antigen;
 - b) injecting said non-viral nucleic acid into a tail vein of a-rodents thereby delivering said non-viral nucleic acid to a liver cell wherein said antigen is expressed in a majority of the injected rodents and an immune response directed against the expressed antigen is induced; and,
 - c) isolating from said rodents said antibodies or immune cells producing said antibodies.
26. (previously presented) The method of claim 25 wherein said nucleic acid is complexed to a polymer.
27. (currently amended) The method of claim 26 wherein said rodents consists of mice a mouse.
- 28-33. (canceled)